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Relevance scale ☐ ☐ ☐ ☐ ☐**1 [Fast detection of communication patterns in distributed executions](#)**

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**Full text available: [pdf\(4.21 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application: In our experience, such tools display repeated occurrences of non-trivial commun ...

**2 [Special issue on knowledge representation](#)**

Ronald J. Brachman, Brian C. Smith

February 1980 **ACM SIGART Bulletin**, Issue 70Full text available: [pdf\(13.13 MB\)](#)Additional Information: [full citation](#), [abstract](#)

In the fall of 1978 we decided to produce a special issue of the SIGART Newsletter devoted to a survey of current knowledge representation research. We felt that there were two useful functions such an issue could serve. First, we hoped to elicit a clear picture of how people working in this subdiscipline understand knowledge representation research, to illuminate the issues on which current research is focused, and to catalogue what approaches and techniques are currently being developed. Secon ...


**3 [HyPursuit: a hierarchical network search engine that exploits content-link hypertext clustering](#)**

Ron Weiss, Bienvenido Vélez, Mark A. Sheldon

March 1996 **Proceedings of the the seventh ACM conference on Hypertext**Full text available: [pdf\(2.00 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**4 [Special issue: AI in engineering](#)**

D. Sriram, R. Joobhani


January 1985 **ACM SIGART Bulletin**, Issue 91

Full text available:  pdf(8.79 MB)Additional Information: [full citation](#), [abstract](#)

The papers in this special issue were compiled from responses to the announcement in the July 1984 issue of the SIGART newsletter and notices posted over the ARPAnet. The interest being shown in this area is reflected in the sixty papers received from over six countries. About half the papers were received over the computer network.

##### 5 Data clustering: a review

A. K. Jain, M. N. Murty, P. J. Flynn


September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3Full text available:  pdf(636.24 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

**Keywords:** cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity indices, unsupervised learning

##### 6 Explanation-based learning: a survey of programs and perspectives

Thomas Elman

June 1989 **ACM Computing Surveys (CSUR)**, Volume 21 Issue 2Full text available:  pdf(6.15 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Explanation-based learning (EBL) is a technique by which an intelligent system can learn by observing examples. EBL systems are characterized by the ability to create justified generalizations from single training instances. They are also distinguished by their reliance on background knowledge of the domain under study. Although EBL is usually viewed as a method for performing generalization, it can be viewed in other ways as well. In particular, EBL can be seen as a method that performs fo ...

##### 7 PERSIVAL, a system for personalized search and summarization over multimedia healthcare information

Kathleen R. McKeown, Shih-Fu Chang, James Cimino, Steven Feiner, Carol Friedman, Luis Gravano, Vasileios Hatzivassiloglou, Steven Johnson, Desmond A. Jordan, Judith L. Klavans, André Kushniruk, Vimla Patel, Simone Teufel

January 2001 **Proceedings of the 1st ACM/IEEE-CS joint conference on Digital libraries**Full text available:  pdf(369.13 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


In healthcare settings, patients need access to online information that can help them understand their medical situation. Physicians need information that is clinically relevant to an individual patient. In this paper, we present our progress on developing a system, PERSIVAL, that is designed to provide personalized access to a distributed patient care digital library. Using the secure, online patient records at New York Presbyterian Hospital as a user model, PERSIVAL's components tailor s ...

**Keywords:** medical digital library, multimedia, natural language, personalization, query interface, search, summarization

## 8 Machine interpretation of CAD data for manufacturing applications

Qiang Ji, Michael M. Marefat

September 1997 **ACM Computing Surveys (CSUR)**, Volume 29 Issue 3

Full text available:  [pdf\(1.90 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Machine interpretation of the shape of a component for CAD databases is an important problem in CAD/CAM, computer vision, and intelligent manufacturing. It can be used in CAD/CAM for evaluation of designs, in computer vision for machine recognition and machine inspection of objects, and in intelligent manufacturing for automating and integrating the link between design and manufacturing. This topic has been an active area of research since the late '70s, and a significant number of computat ...

**Keywords:** artificial intelligence, automated process planning, computer-aided design, computer-integrated manufacturing, feature recognition, flexible automation

## 9 Experiences with selecting search engines using metasearch

Daniel Dreilinger, Adele E. Howe

July 1997 **ACM Transactions on Information Systems (TOIS)**, Volume 15 Issue 3

Full text available:  [pdf\(428.65 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Search engines are among the most useful and high-profile resources on the Internet. The problem of finding information on the Internet has been replaced with the problem of knowing where search engines are, what they are designed to retrieve, and how to use them. This article describes and evaluates SavvySearch, a metasearch engine designed to intelligently select and interface with multiple remote search engines. The primary metasearch issue examined is the importance of carefully selecti ...

**Keywords:** WWW, information retrieval, machine learning, search engine

## 10 Special issue on natural language generation: Generating natural language summaries from multiple on-line sources

Dragomir R. Radev, Kathleen R. McKeown

September 1998 **Computational Linguistics**, Volume 24 Issue 3

Full text available:  [pdf\(2.36 MB\)](#)  [Publisher Site](#)



Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

We present a methodology for summarization of news about current events in the form of briefings that include appropriate background (historical) information. The system that we developed, SUMMONS, uses the output of systems developed for the DARPA Message Understanding Conferences to generate summaries of multiple documents on the same or related events, presenting similarities and differences, contradictions, and generalizations among sources of information. We describe the various components ...

## 11 Summarizing natural language database responses

Jugal K. Kalita, Marlene L. Jones, Gordon I. McCalla

April 1986 **Computational Linguistics**, Volume 12 Issue 2

Full text available:  [pdf\(2.04 MB\)](#)  [Publisher Site](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)


In a human dialogue it is usually considered inappropriate if one conversant monopolizes the conversation. Similarly it can be inappropriate for a natural language database interface to respond with a lengthy list of data. A non-enumerative "summary" response is less

verbose and often avoids misleading the user where an extensional response might. In this paper we investigate the problem of generating such discourse-oriented concise responses. We present details of the design and implementation o ...

## 12 Navigation issues in hypertext: documenting complex hierarchies with HTML frames

Michael Priestley

October 1997 **Proceedings of the 15th annual international conference on Computer documentation**


Full text available:  [pdf\(1.35 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

## 13 An investigation of content representation using text grammars

D. V. Rama, Padmini Srinivasan

January 1993 **ACM Transactions on Information Systems (TOIS)**, Volume 11 Issue 1

Full text available:  [pdf\(1.80 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We extend prior work on a model for natural language text representation and retrieval using a linguistic device called text grammar. We demonstrate the value of this approach in accessing relevant items from a collection of empirical abstracts in a medical domain. The advantage, when compared to traditional keyword retrieval, is that this approach is a significant move towards knowledge representation and retrieval. Text representation in this model includes keywords and their conceptual r ...

**Keywords:** text grammar, text representation for medical abstracts, text representation for retrieval

## 14 The berkeley UNIX consultant project

Robert Wilensky, David N. Chin, Marc Luria, James Martin, James Mayfield, Dekai Wu

December 1988 **Computational Linguistics**, Volume 14 Issue 4

Full text available:  [pdf\(4.41 MB\)](#)  [Publisher Site](#)


Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

UC (UNIX Consultant) is an intelligent, natural language interface that allows naive users to learn about the UNIX<sup>2</sup> operating system. UC was undertaken because the task was thought to be both a fertile domain for artificial intelligence (AI) research and a useful application of AI work in planning, reasoning, natural language processing, and knowledge representation. The current implementation of UC comprises the following components: a language analyzer, called ALANA, produces a repre ...

## 15 Computational strategies for object recognition

Paul Suetens, Pascal Fua, Andrew J. Hanson

March 1992 **ACM Computing Surveys (CSUR)**, Volume 24 Issue 1

Full text available:  [pdf\(6.37 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)


This article reviews the available methods for automated identification of objects in digital images. The techniques are classified into groups according to the nature of the computational strategy used. Four classes are proposed: (1) the simplest strategies, which work on data appropriate for feature vector classification, (2) methods that match models to symbolic data structures for situations involving reliable data and complex models, (3) approaches that fit models to the photometry and ...

**Keywords:** image understanding, model-based vision, object recognition

### 16 Model-based recognition in robot vision

Roland T. Chin, Charles R. Dyer

March 1986 **ACM Computing Surveys (CSUR)**, Volume 18 Issue 1

Full text available:  [pdf\(4.94 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

This paper presents a comparative study and survey of model-based object-recognition algorithms for robot vision. The goal of these algorithms is to recognize the identity, position, and orientation of randomly oriented industrial parts. In one form this is commonly referred to as the "bin-picking" problem, in which the parts to be recognized are presented in a jumbled bin. The paper is organized according to 2-D, 2½-D, and 3-D object representations, which are used as the basis for ...

### 17 Curriculum recommendations for graduate professional programs in information systems

May 1972 **Communications of the ACM**, Volume 15 Issue 5

Full text available:  [pdf\(4.00 MB\)](#)


Additional Information: [full citation](#), [references](#), [citations](#)

**Keywords:** education, information analysis, information systems development, management information systems, management systems, system design, systems analysis

### 18 Beyond document similarity: understanding value-based search and browsing technologies

Andreas Paepcke, Hector Garcia-Molina, Gerard Rodriguez-Mula, Junghoo Cho

March 2000 **ACM SIGMOD Record**, Volume 29 Issue 1

Full text available:  [pdf\(1.29 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

In the face of small, one or two word queries, high volumes of diverse documents on the Web are overwhelming search and ranking technologies that are based on document similarity measures. The increase of multimedia data within documents sharply exacerbates the shortcomings of these approaches. Recently, research prototypes and commercial experiments have added techniques that augment similarity-based search and ranking. These techniques rely on judgments about the 'value' of documents. Jud ...

**Keywords:** World-Wide Web, collaborative filtering, hypertext, information filters, information retrieval, links, metadata, ranking, relevance, search engines

### 19 Clustering hypertext with applications to web searching

Dharmendra S. Modha, W. Scott Spangler

May 2000 **Proceedings of the eleventh ACM on Hypertext and hypermedia**

Full text available:  [pdf\(300.31 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** cluster annotation, feature combination, high-dimensional data, hyperlinks, sparse data, toric k-means algorithm, vector space model

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### Developing a digital library of computer science teaching resources

Scott Grissom, Deborah Knox, Elana Copperman, Wanda Dann, Michael Goldweber, Janet Hartman, Marja Kuittinen, David Mutchler, Nick Parlante  
October 1998 **ACM SIGCUE Outlook**, Volume 26 Issue 4

Full text available:  [pdf\(1.31 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We describe recommendations for how to plan and develop a web-based digital library to support computer science education, i.e., the online Computer Science Teaching Center (CSTC) <[www.cstc.org/~cstc](http://www.cstc.org/~cstc)>. This report details three facets: the identification of appropriate resources for inclusion in the CSTC, the review process for submissions, and the development and promotion of CSTC. A taxonomy of teaching resources is provided, and includes informal feedback from ITiCSE '98 confere ...

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